ABSTRACT

BACKGROUND

Insulin resistance and metabolic syndrome can be found even in individuals with normal weight defined by BMI.

OBJECTIVE

To study the prevalence of Insulin resistance using HOMA index and metabolic syndrome in normal weight individuals and also to study the usefulness of Triglyceride glucose index in identifying insulin resistance among normal weight individuals.

METHODS AND MATERIALS

Clinical parameters, Insulin levels and other biochemical parameters were measured in 220 subjects (normal weight individuals based on BMI) in both sex aged 21-50 years.JIS criteria was implemented for defining clinical and biochemical parameters. HOMA index and Triglyceride glucose index was assessed using Fasting blood sugar, Insulin level and triglyceride levels. The correlation of insulin resistance and metabolic syndrome and its prevalence were analyzed.

RESULTS

The prevalence of Metabolic syndrome according to JIS definition was 25% in males (95%CI 16.8%-35.5%) and 47% in females (95%CI 39.06%-55.3%).The prevalence of Insulin resistance (HOMA-IR) was 7.5% in males(95%CI 3.5%-15.4%) and 8.6% in females(95%CI 5.0%-14.3%). The Mean Weight, Height, Waist circumference, Waist-Hip ratio , Skinfold thickness were significantly higher among men when compared with women whereas the skinfold thickness was significantly higher among women than men. HDL cholesterol was negatively

correlated with HOMA index in both gender and was stastically significant. There was no stastitically significant correlation between TyG index with clinical and biochemical parameters.

CONCLUSION

In conclusion our study provides evidence for prevalence of Insulin resistance and Metabolic syndrome in normal weight individuals. There was no evidence for using trigyceride index to identify metabolically risky group among normal weight population.Considering these observations it has been proved that having a normal BMI doesn't mean no risk for metabolic disorders and consequently for CVD.This situation reveals the need for change in routine screening of obese individuals defined by BMI alone and requires the incorporation of other clinical and biochemical parameters.

There is a need for comprehensive studies addressing the complex interaction between fat content, distribution and activity, and muscle mass , and their effect on metabolism, CVD risk and survival.

KEYWORDS: Insulin resistance, Metabolic syndrome, Normal weight individuals, HOMA index, Triglceride glucose index.